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EXAMINER

KIANNI, KAVEH C

ART UNIT PAPER NUMBER

2877

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application N .

09/720,084

Examiner

Kevin C Kianni

Applicant(s)

EBBESEN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 1,34 and 43-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-32 and 35-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### **DETAILED ACTION**

1. Acknowledgement made of applicant's election with traverse of Group invention II With species Group A. The applicant has not provided convincing arguments for reversing the examiner's decision for the restriction and since the Group Inventions I-III, having species A-C, are distinct inventions that are searchable in different class/subclasses, and therefore the restriction is made FINAL.

### ***Claim Rejections – 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-7, 9-20, 30 and 35-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gudesen et al. (WO 99/14762).

Regarding claim 35 Gudessen teaches a web of circuitry (shown at least in fig. 1-3) comprising: at least two circuit elements each having ends (see figures 2-3 items 2-7 and resistive wires); at least one physical intersection of said elements (shown in at least figure 3a, intersected items 2-4 and 6-7) where the intersection (fig. 3, item memory cells 5) does not occur at the ends of said elements 2-7; and a predetermined circuit pattern, where said elements are arranged in multiple-dimensions according to said pattern (shown at least in fig. 1-3, items 3, 4, 7, 9, 2 and 1; also page 10, lines 24-

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31), where the intersection 5 is a point of communication between elements (see abstract) , where the intersections and varying properties of the elements form active regions (see page 4, lines 12-30), where the active regions are associated with circuitry in the pattern (see page 4, lines 12-30), where at least one element is a transmission line 2/4 or an isolator 6 and where said elements are arranged in said predetermined circuit pattern by integrating said elements using patching (shown at least in fig. 3a, items 3, 4, 5 and 7; also page 10, line 18-page 11, line 12).

However, Gudessen does not specifically teach wherein the above patching is weaving, knitting, crocheting, knotting, or stitching. It is well known to those of ordinary skill in the art that patching layers of conducting material for forming conducting patterns of electrical circuitry is known as stitching of the above conducting elements, since such conducting pattern formation provides multilevel electronic structure with more flexible technical solutions and reduced cost (see page 4, lines 3-8).

Regarding claims 2-7, 9-20, 30 and 36-42 Gudessen further teaches wherein the pattern is a two-dimensional fabric-like structure (shown in fig. 3a, items 2-7); wherein the elements are arranged such that the positions of the ends of the elements define a spatial grid (see at least figures 3a and 7, items defining special grid); wherein the elements have active regions that are defined by exposing portions of the elements to the encompassing environment (col. 11, lines 9-12+), wherein said element has an active region that is extended lengthwise therein (fig. 3, item 2, 4-7 and col. 11, lines 9-12+); wherein said element has an active region that corresponds to an end thereof (col.

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11, lines 9-12+); wherein some of the elements are provided with a protective shielding or cladding (fig. 3b, items 1 and 3), the active regions in these elements being provided by removing the shielding or cladding at selected portions thereof (see fig. 3b, wherein active regions are exposed by removing shielding 3); wherein the active regions of the elements are provided in selected portions of the elements exposed in the surface of the fabric-like structure or protruding therefrom at selected locations thereof (see fig. 3b, items 2 and 7);, wherein the active regions of the elements are defined by exposing portions thereof to spatially selective physical or chemical influences (col. 11, lines 9-18); having at least two transmission lines wherein at least one transmission line is a conductor 2/4 embedded in an exterior cladding 1/3 composed of an organic semiconducting material, where active regions are defined by contact between transmission lines, and where semiconducting junctions are formed at the contact points of said intersections (see fig. 3, items 2/4 and page 10, line 18-page 11, line 19); wherein the semiconducting junctions 5 are formed spontaneously upon contact (page 11, lines 13-18); wherein at least one semiconducting junction is a diode junction (see page 9, lines 30-36, see abstract); wherein the organic semiconducting material is a semiconducting polymer (see page 11, lines 9-18); wherein some of the elements, having characteristic lengths, are shielded over a portion of the lengths against exchange of energy between elements or the exterior surroundings, where one or more unshielded portions are adapted to enable exchange of energy through the unshielded portions (see fig. 3, items 2, 5 and 7 and abstract); wherein the unshielded portions of the elements are located at the intersections thereof (see fig. 3, item 5); providing the

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surface of the elements with a shielding or cladding material 1/9 before arranging the elements 2/4/7; and removing some shielding or cladding material, after arranging the elements , from some elements or from selected portions thereof at selected locations to form some of the active regions (see page 12, lines 21-24); wherein at least one intersection and associated elements form an active region where the physical properties of the elements result in the absorption or emission of energy in the region (see abstract; also page 4, lines 12-30 and page 9, lines 30-36); wherein at least one intersection allows electronic communication between the elements associated with the intersection (see abstract); wherein one element is composed of a transparent material (see page 11, lines 25-35); wherein one element is composed of a conducting material (fig. 3, item7); wherein one element is composed of a semi-conducting material (page 11, lines 3-12); wherein the intersection absorbs electrical or optical energy (see abstract; also page 4, lines 12-30 and page 9, lines 30-36); wherein the intersection absorbs chemical or mechanical energy (see abstract; also page 4, lines 12-30 and page 9, lines 30-36); wherein the pattern contain elements that are discrete electronic, optoelectronic or optical devices or combination thereof (see abstract, wherein patches of electrical/optoelectronic elements that are discrete are being connected via buses).

3. Claim 8, 21-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Gudesen et al. and Alton (US 4,521,771).

Regarding claims 8 and 21-29 Gudessen further teaches wherein at least one of the elements is a signal transmission line that carries the predetermined intensities and

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frequencies to predetermined locations in the pattern (see page 9, line 30-page 10, line 3+ and abstract); wherein the intersections are adapted for absorption or emission of electrical or optical energy (see abstract; also page 4, lines 12-30 and page 9, lines 30-36); wherein the elements intersect in a spatial regular pattern or grid, where some elements in the pattern are adapted for emitting or absorbing electrical or optical energy (see abstract; also page 4, lines 12-30 and page 9, lines 30-36); wherein active regions of the elements are provided in selected portions of the element exposed in the surface of the fabric-like structure or protruding therefrom at selected locations thereof (see fig. 3b, items 2/7), said active regions being either a loop-like portion of an element or an end (fig. 3, items 7/2); wherein the pattern contains elements that are discrete electronic, optoelectronic or optical devices or combinations thereof (see abstract); wherein the elements form a two/three -dimensional array of equally spaced elements (shown in fig. 3, items 5 and 7).

However, Gudessen does not specifically teach wherein the apparatus is a two- or three-dimensional optoelectronic display where the unshielded portions emit light at predetermined intensities, frequencies, and locations; where the active regions are pixels in the display;; wherein some elements are twisted pair transmission lines; wherein some elements are transmission lines that are coaxial cables wherein some elements are optical fiber transmission lines. Nevertheless, Gudessen teaches wherein the above web of circuitry can be used for forming of films/motion pictures (see page 16, last paragraph). The above limitations are taught by Lebby et al (shown at least in fig. 1-4, items active areas 22 and 24; see col. 4, lines 21-48; wherein, pixels are

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basic/smallest inherent elements of colors for image formation in displays/ pictures).

Thus, Lebby provides transmission/receiving and ultimately display of communication information (see col. 2, lines 17-22). Thus, it would have been obvious to a person of ordinary skill in the art when the invention was made to modify Gudessen's web circuitry shown in figure 3, by incorporating Lebby's web circuitry active elements shown in figure 3, items 22-24, so as to produce a conventional web circuitry that includes the above limitations, since the resultant optoelectronic system would provide control circuits being integrated with substrates realized in a semiconductor technology compatible with the substrate material (see page 5, lines 4-10).

4. Claim 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Gudesen et al. and Wiener (US 5524679).

Regarding claims 31-32, as discussed above, Gudessen teaches all limitations of claim 35. However, Gudessen does not teach wherein one or more of the discrete devices are physical or chemical sensors connected to at least one of the elements and wherein one or more of the elements are physical or chemical sensors. This limitation is taught by Weiner (see at least abstract and col. 6, lines 30-39 and col. 7, lines 58-67). Thus, Wiener provides sensing, imaging and communications (see col. 3, lines 28-35).

Thus, it would have been obvious to a person of ordinary skill in the art when the invention was made to modify Gudessen's web circuitry shown in figure 3, by incorporating Wiener's web circuitry active elements such as shown in figure 7, items 15, so as to produce a conventional web circuitry that includes the above limitations,



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since the resultant optoelectronic system would provide control circuits being integrated with substrates realized in a semiconductor technology compatible with the substrate material (see page 5, lines 4-10).

***Citation of Relevant Prior Art***

5. Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

WO 98/58383

Blumenfeld et al. FR2561789

Alton 4521771 teaches image pixels of displays

Feldman et al. 5876863 teaches coaxial cable patterns

Novich et al. 6419981

Post et al. 6210771

Kobashigawa et al. 5829979

Ninnis et al. 5052777

These references are cited herein to show the relevance of the apparatus/methods taught within this reference as prior art.